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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/937,033

09/21/2001

Thierry Linossier

1F-870 Cas 156 GF-AG

6295

466

7590

11/26/2003

YOUNG & THOMPSON

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ARLINGTON, VA 22202

EXAMINER

MAYO III, WILLIAM H

ART UNIT

PAPER NUMBER

2831

DATE MAILED: 11/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/937,033

Applicant(s)

LINOSSIER, THIERRY

Examiner

William H. Mayo III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 14-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 14-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 14, 2003 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-11 and 14-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, "the cable segment being connected to a load equal to a differential mode characteristic impedance of the cable segment" was not previously presented in the specification and therefore constitutes new subject matter. There is absolutely no support in the original

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specification for the addition of the above stated claim subject matter and therefore the applicant is not entitled to the newly submitted subject matter. The applicant is required to cancel the new subject matter.

4. Claims 1-11 and 22 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a first end being connected to a connector, does not reasonably provide enablement for "free ends of the cable segment". The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or assemble the invention commensurate in scope with these claims. Specifically, the specification states nothing about the cable ends being free ends and it is unclear how the cable segments contain free ends when the drawings and the specification state that both ends of the cable segments are connected to either a load or a connector.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 1 recites the limitation "said cable segment" in throughout the claim, which is confusing and renders the claim indefinite. It is unclear whether the applicant is referring to the previous mentioned "at least one cable segment" or introducing a new cable segment. If the applicant is referring to the previous mentioned term, then he/she

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should recite the term with consistency. If the applicant is referring to a new cable segment, then he/she should make the term more distinguishable.

8. Claims 2-11 recites the limitation "said radiating cable " in the preamble of the claim, which is confusing and renders the claim indefinite. There is insufficient antecedent basis for this limitation in the claim because there has not been any previous reference to a radiating cable in previous lines of the claims.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith (Pat Num 5,321,372). Smith discloses radiating cable (i.e. antenna, Figs 1-4) comprising a pair of conductor wires (203-206) for use in a computer network (abstract). Specifically, with respect to claim 1, Smith discloses a cable (100-Fig 1) comprising at least one cable segment (left side under 103) wherein each cable segment has a pair of insulated conductor wires (203-206) has free ends (i.e. first ends) connected to a load (i.e. DTE, 101) and the second ends connected to a connector (i.e. connectors of concentrators, 102), and wherein the first ends are opposite the connector (102), wherein the load (101) is equal to an differential mode impedance characteristic of the at least one cable segment (Col 4, lines 48-58, since all of the claim structure is present,

the cable is capable of having a differential mode impedance). With respect to claim 2, Smith discloses that at least two cable segments (left and right sides) may be connected in parallel configuration (Fig 1, Col 6, lines 45-53). With respect to claim 3, Smith discloses that the two cable segments (left and right sides under 103) are identical (Fig 1). With respect to claim 4, Smith discloses that the conductor wires (203-206) are inserted in a supporting sheath (202, Fig 2). With respect to claim 5, Smith discloses that the conductor wires (203-206) are twisted together (Fig 2).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (Pat Num 5,321,372) in view of King et al (Pat Num 4,404,424, herein referred to as King). Smith discloses cable (Figs 1-4) capable of radiating comprising a pair of conductor wires (203-206) for use in a computer network (abstract) as detailed above with respect to claim 1. Specifically, with respect to claim 6, Smith discloses that the conductor wires (203-206) are twisted at a pitch (Fig 2).

However, Smith doesn't necessarily disclose the conductor wires being twisted at a pitch in the range of 15 to 30 times the diameter (claim 6), nor the wires being twisted alternatively with right handed and with left handed twist (claim 7), nor the portion of the

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cable being twisted with right handed twisted being separated from a portion of cable with left handed twist by a portion of the cable that has parallel wires (claim 8).

King teaches a cable (Fig 1) having a configuration that limits signal attenuation and distortion and provides precise control over the electrical parameters of the cable (Col 2, lines 30-35). Specifically, with respect to claim 6, King teaches a cable (10) having a pair (20) of insulated conductors (22), where the conductors (22) are twisted at a pitch of 0.100 inches, wherein the diameter of the conductor is 0.015 inches (i.e. 9 times the diameter of the wire (22)). With respect to claim 7, King teaches that the cable (10) comprises insulated conductor wires (22), wherein the wires (22) may be twisted alternatively with right handed and with left handed twist (i.e. counter rotation, Col 3, lines 9-11). With respect to claim 8, King teaches a cable (10) having insulated conductors (22), wherein the wires (422) may be twisted alternatively with right handed and with left handed twist (i.e. counter rotation, Col 3, lines 9-11), wherein the portion of the cable (10) being twisted with right handed twisted (30, left of 3's showing cross section of Fig 1) may be separated from a portion of cable with left handed twist (30, right of 3's showing cross section of Fig 1) by a portion of the cable (10) that has parallel wires (32).

With respect to claims 7-8, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable of Smith to comprise the conductor configuration as taught by King because King teaches that such a configuration limits signal attenuation and distortion and provides precise control over the electrical parameters of the cable (Col 2, lines 30-35).

With respect to claim 6, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the twist pitch of Smith to comprise a pitch in the range of 15 to 30 times the diameter as taught by Smith, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

13. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (Pat Num 5,321,372) in view of Smith (Pat Num 4,339,733, herein referred to as Smith2). Smith discloses cable (Figs 1-4) capable of radiating comprising a pair of conductor wires (203-206) for use in a computer network (abstract) as detailed above with respect to claim 1.

However, Smith doesn't necessarily disclose the cable including a dielectric tape in contact with the insulated conductor wires (claim 9), nor the cable further comprising metal tape helically wrapped without overlap around the conductor wires (claim 10), nor the comprising metal tape helically wrapped without overlap around the conductor wires and extending between the dielectric tape and the outer supporting sheath (claim 11).

Smith2 teaches an improved radiating cable (Figs 1-3) that eliminates or minimizes degrading environments effects on the performance of the cable and significantly decreases attenuation along the transmission line (Col 1, lines 55-60). Specifically, with respect to claim 1, Smith2 teaches a cable (10, Fig 3) comprising insulated conductor (11 & 12). With respect to claim 9, Smith2 teaches a cable (10, Fig 3) comprising insulated conductor (11 & 12), that is surrounded by a dielectric (14), that

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may be a tape (i.e. laminate, Col 2, lines 13-19), which is in electrical contact with the insulated conductor (11 & 12). With respect to claim 10, Smith2 teaches that the cable (10) further includes metal tapes (15) that may be helically wrapped (Fig 3) without overlap around the insulated conductor (11 & 12). With respect to claim 11, Smith2 teaches that the cable (10) further includes metal tapes (15) that may be helically wrapped (Fig 3) without overlap around the insulated conductor (11 & 12) and extend between the dielectric tape (14) and the outer supporting jacket (16).

With respect to claims 9-11, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable of Smith to comprise the conductor and cable configuration as taught by Smith2 because Smith2 teaches that such a configuration eliminates or minimizes degrading environments effects on the performance of the cable and significantly decreases attenuation along the transmission line (Col 1, lines 55-60).

Allowable Subject Matter

14. Claims 14-22 would be allowed if the applicant provides adequate proof and persuasion to overcome the rejection(s) under 35 U.S.C. 112, first paragraph, set forth in this Office action.

Response to Arguments

15. Applicant's arguments filed October 14, 2003 have been fully considered but they are not persuasive. The applicant argues the following:

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- A) Smith doesn't disclose the cable being a radiating cable but rather a linking cable.
- B) Smith teaches away from the present invention because Smith teaches minimizing emissions which is contrary to the goals of the claimed invention.
- C) Smith doesn't teach the cable having free ends connected to a passive load, such as a resistor, equal to a characteristic impedance of the cable segment, but rather a device.
- D) The combination of Smith and Smith2 to render the claimed invention obvious, is improper as Smith teaches away from using a cable of Smith2.

With respect to arguments A & B, the examiner respectfully traverses. Firstly, it should be understood that the examiner is required by the MPEP, to examine the claims in the broadest interpretation, as supported by the specification, while not reading limitations of the specification into the claim. However, the interpretation should not be strained and express limitations in the claim should not be ignored. Given the above guidelines, the broadest interpretation is a cable that radiates. Smith clearly discloses a cable that radiates. While the examiner agrees that Smith teaches reducing the radiating of the cable, the cable of Smith still radiates. Therefore, Smith clearly discloses a radiating cable, specifically a cable that radiates. In light of the above, the examiner respectfully submits that the limitation of a radiating cable is met.

With respect to argument C, the examiner respectfully traverses. Firstly, it should be noted that the features upon which applicant relies (i.e., passive load) is not

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recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Secondly, even if the claim did recite the claim limitation of the free end being connected to a passive load, Smith clearly teaches free end of the conductors being connected to a passive load, such as a resistor, equal to a characteristic impedance of the cable segment.

Specifically, Smith discloses in Column 3, lines 1-20, the following

“Consequently, the present invention terminates the common mode of the twisted pairs into a load having an impedance approximately equal to the common mode impedance of the twisted pairs.”

Smith also discloses that

“In the currently preferred embodiment of the present invention, resistors are used as loads. The common mode impedance of the twisted pairs are measured, and an equivalent resistor value is implemented.”

Therefore, Smith clearly discloses that the load (i.e. DTE) clearly may comprise resistors having matching impedances to the cable segments. In light of the above, the examiner respectfully submits that even if the claim limitation was present in the claims, Smith clearly discloses the usage of a passive load.

With respect to argument D, the examiner respectfully traverses. While the examiner agrees that Smith clearly teaches reducing radiating energy of a cable, one cannot ignore that the cable configuration, as claimed by the applicant, is disclosed in the reference of Smith. Specifically, as detailed above with respect to claims 1-5, the claimed limitation are present in Smith. Secondly, it should be noted that Smith² is

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disclosed solely for its teaching of modifying the conductor and cable configuration in order to eliminate or minimize degrading environments effects on the performance of the cable and significantly decrease attenuation along the transmission line (see Smith2, Col 1, lines 55-60). It has been held that patents are relevant for all they disclose. Specifically,

“The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain.” In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

In this case, Smith clearly teaches a cable that radiates (i.e. radiating cable) having at least one conductor segment having free ends of the conductors being connected to a passive load, such as a resistor, equal to a characteristic impedance of the cable segment for the purpose overcoming the problems of prior art cables such as high attenuation (Col 2, lines 1-2 of Smith). Smith2 teaches that modifying the conductor and cable configuration as disclosed above, also reduces attenuation (Col 1, lines 55-60 of Smith2). The courts have been consistent that a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. See Merck & Co. v. Biocraft Laboratories, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See also Celeritas Technologies Ltd. v. Rockwell International Corp., 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998) (The court held that the prior art anticipated

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the claims even though it taught away from the claimed invention. "The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed."). In light of the above comments, the examiner submits that the combination of Smith and Smith2 is proper and just.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Goodman et al (Pat Num 5,010,399) and Rose (Pat Num 6,195,561), both of which discloses radiating cable interconnections.

Communication

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (703) 306-9061. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

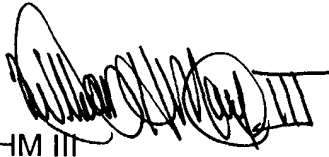
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (703) 308-3682. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3431 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to be "WHM III", written over a circular stamp that contains vertical lines.

WHM III
November 14, 2003